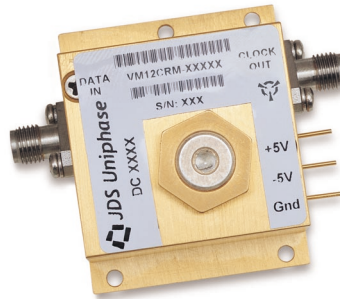


Product Bulletin



12 Gb/s Clock Recovery Module

VM12CRM Series for RZ or NRZ Data Format

This product is used to generate a high-level synchronous clock signal from 12 Gb/s return-to-zero (RZ) or NRZ data. This module includes a temperature stable high “Q” filter (800 to 1000) for excellent jitter transfer characteristic, which unlike phase-locked-loop designs cannot “loose lock.”

The data rate is factory settable over a range of 10.7 to 12.5 Gb/s. Please specify the bit rate in MHz and data format (RZ or NRZ) when ordering (see instructions inside for part numbering).

Key Features

- Low DC power, 5 V at 160 mA typical
- Provides sinusoidal clock $>1.5 V_{p-p}$
- Accepts data input level as low as $200 mV_{p-p}$
- Internal DC regulation and reverse voltage protection
- Spectral purity $>30 dBc$
- Excellent output amplitude and phase stability over input level range and temperature
- Fast start-up (50 to 100 bits)

Applications

- Long-haul optical transmission systems
- OC-192 applications with FEC protocols

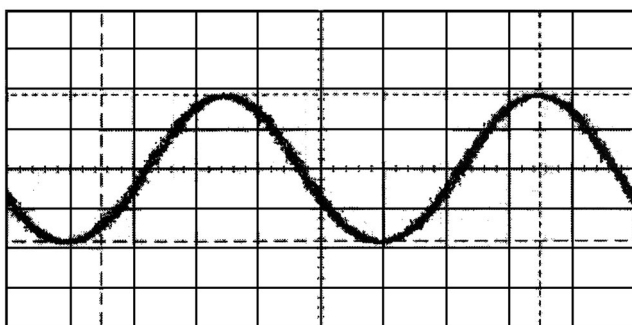
Typical Performance

Clock Output at 12 Gb/s

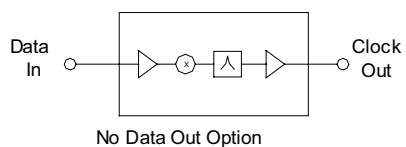
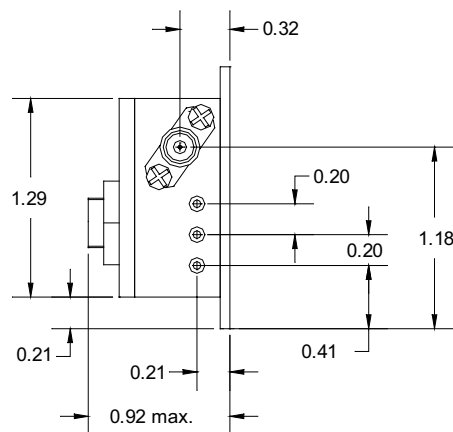
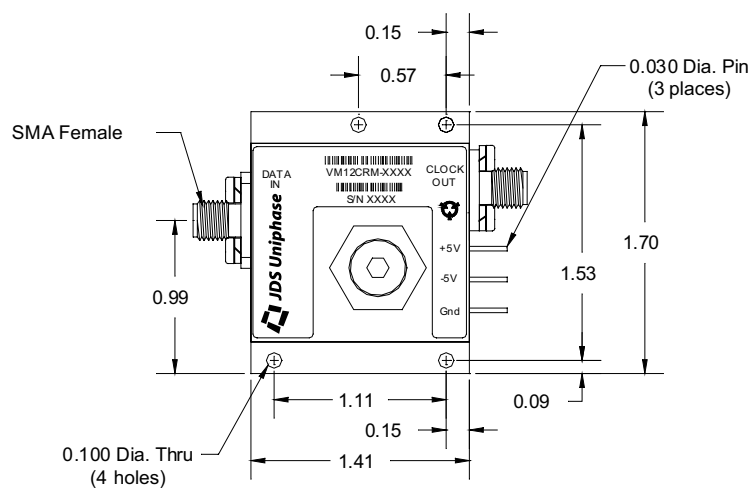
PRBS = $2^{31} - 1$

500 mV/div

20 ps/div



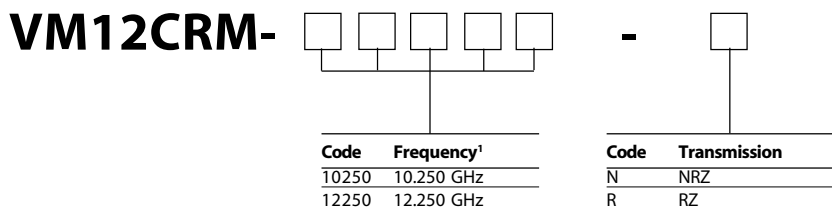
Package Dimensions (in inches)



Parameter		
Data input level		0.3 to 0.8 V _{P-P}
Input reflection	Maximum	-10 dB (100 KHz to 8 GHz)
	Typical	-15 dB (to 5 GHz)
Clock output level	Minimum	1.5 V _{P-P}
Clock output variation with input amplitude	Maximum	3 dB output change for 6 dB input change
Clock output variation with temperature	Maximum	10% at 0 to 80 °C
Internal resonator “Q”	Minimum	750
Clock output reflection	Maximum	-10 dB at FO ±100 MHz
Operating temperature		0 to 80 °C
Clock phase stability over temperature	Maximum	±20°, (±5 ps)
Clock phase stability over input level		±3 ps over any 3 dB change
Spurious output	Maximum	-30 dBc
Output jitter	Typical	1%
	Maximum	2% RMS noise on output sinusoid (10 seconds average)
Positive supply	Maximum	4.8 to 5.5 V DC at 200 mA, internally regulated
		Reverse polarity protected to 10 V
Negative supply	Maximum	-4 to -6 V DC at 10 mA, internally regulated
		Reverse polarity protected to 20 V

For more information on this or other products and their availability, please contact your local JDS Uniphase account manager or JDS Uniphase directly at 800-871-8537 in North America and 1-800-8735-5378 worldwide or via e-mail at jdsu.sales@us.jdsuniphase.com.

Sample: VM12CRM-12250-N



1. Bit rate up to 1 MHz. Please contact factory for different operating frequency.